

Amendments to the Claims

Please cancel Claims 1-18 and enter the following new Claims 19-35.

19. (New) An isolated nucleic acid molecule selected from the group consisting of:

- (a) a nucleic acid molecule comprising a nucleic acid sequence of at least 45 consecutive nucleotides identical in sequence to a 45 contiguous nucleotide region of a sequence selected from the group consisting of SEQ ID NO:4, SEQ ID NO:7, SEQ ID NO:9, and SEQ ID NO:18, wherein said nucleic acid sequence encodes a protein that elicits an immune response against a canine IL-5 protein or has IL-5 activity; and
- (b) a nucleic acid molecule fully complementary in sequence to the nucleic acid molecule of (a).

20. (New) The isolated nucleic acid molecule of Claim 19, wherein said isolated nucleic acid molecule comprises a nucleic acid sequence encoding a protein comprising at least 20 amino acids identical in sequence to a 20 contiguous amino acid region of a sequence from SEQ ID NO:5 or SEQ ID NO:10, wherein said protein elicits an immune response against a canine IL-5 protein or has IL-5 activity.

21. (New) The isolated nucleic acid molecule of Claim 19, wherein said nucleic acid molecule comprises a nucleic acid sequence encoding a protein having an amino acid sequence at least about 95% identical to an amino acid sequence selected from SEQ ID NO:5 or SEQ ID NO:10.

22. (New) The isolated nucleic acid molecule of Claim 19, wherein said nucleic acid molecule comprises a nucleic acid sequence encoding a protein having an amino acid sequence selected from SEQ ID NO:5 or SEQ ID NO:10.

23. (New) A recombinant molecule comprising a nucleic acid sequence as set forth in Claim 19 operatively linked to a transcription control sequence

24. (New) A recombinant virus comprising a nucleic acid molecule as set forth in Claim 19.

25. (New) A recombinant cell comprising a nucleic acid molecule as set forth in Claim 19.

26. (New) An isolated nucleic acid molecule selected from the group consisting of:  
(a) an isolated nucleic acid molecule comprising a nucleic acid sequence at least about 95% identical to a nucleic acid sequence selected from the group consisting of SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:11, SEQ ID NO:18 and SEQ ID NO:19; and  
(b) an isolated nucleic acid molecule fully complementary in sequence to the nucleic acid molecule of (a)

27. (New) The isolated nucleic acid molecule of Claim 26, wherein said nucleic acid molecule encodes a protein that elicits an immune response against a canine IL-5 protein or has IL-5 activity.

28. (New) The isolated nucleic acid molecule of Claim 26, wherein said isolated nucleic acid molecule comprises a nucleic acid sequence selected from the group consisting of SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:11, SEQ ID NO:18 and SEQ ID NO:19.

29. (New) A recombinant molecule comprising a nucleic acid molecule as set forth in Claim 26 operatively linked to a transcription control sequence.

30. (New) A recombinant virus comprising a nucleic acid molecule as set forth in

31. (New) A recombinant cell comprising a nucleic acid molecule as set forth in Claim 26.

32. (New) A method to produce an immunoregulatory protein comprising:  
(a) culturing a cell capable of expressing said immunoregulatory protein, wherein said immunoregulatory protein is encoded by a nucleic acid molecule comprising a nucleic acid sequence encoding a protein comprising at least 20 amino acids identical in sequence to a 20 contiguous amino acid region of a sequence from SEQ ID NO:5 or SEQ ID NO:10, wherein said protein elicits an immune response against a canine IL-5 protein or has IL-5 activity; and  
(b) recovering said immunoregulatory protein.

33. (New) The method of Claim 32, wherein said nucleic acid molecule comprises a nucleic acid sequence encoding a protein having an amino acid sequence at least about 95% identical to an amino acid sequence selected from SEQ ID NO:5 or SEQ ID NO:10.

34. (New) The method of Claim 32, wherein said nucleic acid molecule comprises a nucleic acid sequence at least about 95% identical to a nucleic acid sequence selected from the group consisting of SEQ ID NO:4, SEQ ID NO:7, SEQ ID NO:9, and SEQ ID NO:18.

35. (New) The method of Claim 32, wherein said nucleic acid molecule comprises a nucleic acid sequence selected from the group consisting of SEQ ID NO:4, SEQ ID NO:7, SEQ ID NO:9, and SEQ ID NO:18.